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ABSTRACT

This document describes the Business and Industry Forum conducted by the South Carolina Council on Vocational and Technical Education to solicit public input on the present and future needs of business and industry, how the companies represented perceive the role of secondary vocational and postsecondary vocational education in today's society, and the private sector role in the education of today's work force. Following introductory material on the council and the Carl D. Perkins Vocational Education Act that mandates the council, the document describes the demographics and employment situation in South Carolina. The next section explains the purpose of the forum, how participants were selected, who participated, how they were prepared, and the forum audience. The largest section contains 23 questions and responses from the forum participants, covering: current requirements for employment; training and retraining programs; dropouts, handicapped persons and other special needs populations; the companies' relationship to vocational and technical education; promotions of employees; and employers' needs during the next 5 to 10 years. The council's recommendations include emphasizing basic skills in all occupational programs and also teaching interpersonal skills and desirable work behavior; making sure teachers of programs in which computers are used are proficient at computers; adding occupational specialists to help students make career decisions; and adding cooperative and apprentice programs. The appendices contain an agenda, glossary, and eight references. (CML)

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BUSINESS INDUSTRY FORUM

TABLE OF CONTENTS

	PAGE
South Carolina Council on Vocational and Technical Education	iii
Public Law 98-524: Carl D. Perkins Vocational Education Act (1984)	iv
Council Members	v
Prologue: Demographics and Employment	1
The Business Industry Forum	5
Purpose for Conducting the Business Industry Forum	5
Selection of Participants	6
Participant Preparation	6
The Participants: Business and Industry Leaders	8
The Forum	9
The Audience	9
November 27, 1989: The Forum Convenes	10
Forum Topic Areas, Questions and Responses	11
Current Requirements for Employment	11
Training and Retraining Programs	24
The Dropout	28
The Handicapped and Other Special Needs Populations	34
Relationship to Vocational and Technical Education	36
Promotions of Employees	40
Future Needs: Five to Ten Years From 1990	41
Conclusions	44
Recommendations To	45
State Board of Education and	
State Board for Technical and Comprehensive Education	
Appendices	
Appendix A - Agenda for November 27, 1989	50
Appendix B - Topics and Questions used by the Moderator	51
Appendix C - Data Searcher	54
Appendix D - Vocational Education Terminology	55
Appendix F - References	59

SOUTH CAROLINA COUNCIL on VOCATIONAL and TECHNICAL EDUCATION

The State Council on Vocational and Technical Education is a separate state agency established under the auspices of the Carl D. Perkins Vocational Education Act of 1984 which authorized federal funds for vocational education. The state must have a State Council, among other conditions, to be eligible to receive federal funds for vocational education. The Council does not operate any educational programs nor have any administrative authority over such programs. The Council does have policy advice responsibilities for vocational education and technical education. The efforts of the Council are directed primarily toward evaluative research and the development of policy advice. The Council's recommendations are submitted to the State Board of Education and the State Board for Technical and Comprehensive Education to enhance and improve the programs of vocational and technical education in South Carolina.

Much of the work of the Council is with the Boards for Vocational Education and Technical Education and their state-level administrative units. These include the State Board of Education, the State Board for Technical and Comprehensive Education, the Office of Vocational Education in the State Department of Education, and the state administration for technical education. The Council also works with other boards, agencies or groups who may be concerned with occupational education and training.

The Council's 13 members are appointed by the Governor to meet specified membership categories. The members represent both the private and the public sectors with the majority from the private sector, and the Chairman must be elected from the private sector members.

P. L. 98-524

CARL D. PERKINS VOCATIONAL EDUCATION ACT - 1984

Excerpts from P.L. 98-524 pertaining to the State Council and the Private Sector

Section 112 (d)(2):

"...advise the State board and make reports to the Governor, the business community, and general public of the State, concerning –

"(A) policies the State should pursue to strengthen vocational education (with particular attention to programs for the handicapped); and

"(B) initiatives and methods the private sector could undertake to assist in the modernization of vocational education programs;

Section 112 (d) (5) (7):

"(5) submit recommendations to the State board on the conduct of vocational education programs conducted in the State which emphasize the use of business concerns and labor organizations;

"(7) recommend procedures to the State board to ensure and enhance the participation of the public in the provision of vocational education at the local level within the State, particularly the participation of local employers and local labor organizations;

SOUTH CAROLINA COUNCIL MEMBERS

MR. LARRY PATRICK, Chairman
Cow Castle Farms, Inc.
Private Sector/Agriculture

MR. DAVID BERRY
Dakat Construction Company
Private Sector/Small Business

MRS. SHIRLEY CORBETT
Florence-Darlington Technical College
Public Sector/Post-Secondary, Career Guidance

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Southern Bell
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Frank M. Hart & Associates, Inc.
Public Sector/Secondary Education

MR. FRANK LANFORD
Fred P. Hamilton Career Center
Public Sector/Secondary Education

MS. MARY LOU RICHARDSON
Communications Workers of America
Private Sector/Labor and J.T.P.A.

MRS. EUNICE SPILLIARDS
Beaufort-Jasper Career Education Center
Public Sector/Secondary Education and Special Needs Populations

PROLOGUE: DEMOGRAPHICS AND EMPLOYMENT

Significant changes are occurring in our workforce as America moves into a new era in the global economy. A few decades ago most of the general workforce were able to be productive with a high school education or less. Traditionally workers were dealing with a more simple type of machinery and methods of producing a product. "How machines operated could be visually observed and with some additional skills, could be repaired." (Paul Cole, 1989) Today, however, with the rapidly changing economics and increased technology, the workforce will need higher educational and technological skills than the workers of only a decade or two ago.

The demographics of the future workers are changing as we face the challenge of greater competition from a global economy. The U.S. Department of Labor estimates that in the year 2000 we will need 25 million people entering the labor market to fill the available jobs. "Of the 25 million workers, most will be nonwhite, female, or immigrant." (Johnston, 1987) The new workers will largely come from a group of immigrants and unskilled individuals that will require literacy and job related education and training to be productive. Dean Griffin in Joint Ventures: A New Agenda for Education states that, "three of every four people now in the United States workforce will be there in the year 2000." These people will require retraining or upgrading to handle the new technology. The demands on business and industry to provide related literacy and technological training have never before been so great as at the current time.

The employees of the 1990's and later will need higher educational and occupational skill levels than much of the present workforce if they are to move above the very lowest economic levels. While the entry level service occupations will experience a shortage of labor, these positions pay only a marginal subsistence wage, at best. Women will make up a larger proportion of the workforce, and must compete with all other applicants for the better paying positions. Jobs that typically have been seen as male only positions will be open to females, but only if the educational and occupational skill levels are equal.

The workforce in the 1990's will be greatly affected by the decline in the youth population. The shrinking number of 18-24 year olds will create labor shortages in specific occupational areas by the mid-1990's. By the year 2000 there will be a "retirement crux." Workers born during the era of the baby boom will be phasing out of full-time employment into part-time and complete retirement. "This will help create the labor shortage. At present only 67 percent of men age 55 to 64 are in the labor force, a rate that has plummeted from 89 percent in 1948." (Susan Dentzer, Dec. 25, 1989/Jan. 1, 1990) One can reasonably project that this trend will continue, with fewer and fewer of the male workers age 65 and over remaining in the full-time work force. The projection is that retired workers will start returning to the workforce in greater numbers as part-time employees.

Business and industry depend on education, and education depends on business and industry. Business and industry supports the educational system through their taxes, and the educational system is called upon to provide a properly educated and trained workforce. As we face an increasingly acute labor shortage, the importance of proper education and training takes on added meaning.

Job applicants are now competing with foreign workers, who frequently are better educated. In many countries job applications request information about a student's grades. In those countries preference for jobs is given to the students who have achieved better in school. Although three out of every four jobs in the United States will require training beyond a high school education by the year 2000, according to the Strategic Economic Policy Commission (1989), "Students entering the job market upon graduation see little connection between achievement in class and opportunities for employment." (Scott Thompson, 1989)

In vocational education programs across the country the curricula is now being altered to have academic subjects taught relevant to vocational courses, as well as stressing basic education within the vocational education program. Some students are being enrolled in cooperative education programs part of each school day or school week to receive on-the-job training. There are also some apprentice programs but

overall the educational system has not yet fully realized the advantages of blending academic and vocational instruction.

It has been predicted that by the year 2000 college bound youth will need upwards of $100,000 for each bachelors' degree. (Jo Ann Tooley and Amy Bernstein, Dec. 25, 1989/Jan. 1, 1990) This trend will require higher salaries and more government tuition and other assistance programs in order to keep pace and to allow students to achieve a baccalaureate degree education.

To achieve greater productivity, companies are reported to be currently spending approximately $40 billion annually on education. This includes remedial education and retraining, as well as education in technology so that employees can be capable of dealing with the knowledge and skills required in the workplace. Employers are also being encouraged to provide innovative choices to employees. These choices can involve flexible job schedules, parental leave, working from the home, and/or some assistance with elder care or child care. These investments in the "human factor" are essential to be competitive in obtaining and/or retaining the most desired workers.

At the same time that employers are finding a group of potential employees who are less than adequately prepared to function at a more complex level of thinking, they are being required to produce a product with higher quality. Manufacturers in foreign countries are surpassing the U.S. in quality; or providing equal quality for a lower price. Since we no longer are based on a national, but a global economy, the American workforce must be more productive and more flexible for their employers to compete globally.

The paradox of a workforce that is poorly prepared educationally as higher skills are required on the job, is causing serious consternation in business and industry. Peter D. Weddle says that 15% of our labor force is functionally illiterate, 13% of our workers have alcohol problems, and 3% to 7% are addicted to illegal drugs. He continues to say that our country believes in "smart" machines because they will provide us with the ability to compete in the global market. "But here's the rub: smart machines need smart people. The brightest machines we have still need people to tell them what to do, fix them when they break, and help them work with other

machines. America has plenty of smart machines, but not enough smart, motivated people to put them to work." (1989) Consequently, more vocational and technical education will be needed for the employers to maintain a competitive posture. "It is predicted that by the year 2000 a worker in the Southeast will have to have approximately fourteen years of formal education to compete for a job." (William A. Dealy, Jr., 1989)

Traditional American values have perpetuated the belief that when a person finishes high school the only route to success, status, and affluence is to attend and graduate from college. To get ones hands dirty is unbecoming and degrading, and only those people who cannot get into college take vocational courses and/or become blue collar workers. Too, parents and teachers alike convey the negative impression of vocational and technical education; failing to note that only about 25% of the jobs will require a baccalaureate (or higher) degree. By the time young people discover the economic realities of life, they've lost the opportunity for vocational education as part of a free public education. This unbecoming image of vocational and technical education has misdirected many young people.

THE BUSINESS INDUSTRY FORUM

The South Carolina Council on Vocational and Technical Education designed the forum to fulfill the federal requirements of PL 98-524. In order to gain the most current and pertinent information regarding business and industry's relationship to vocational and technical education, as well as the effects of education on prospective employees, the Council devised this creative method of a public forum. The dialogue was transcribed, reduced to "bottom line" conclusions, and when appropriate translated to recommendations. The intent of the Council is to provide constructive input into the development of the finest workforce available anywhere in the U.S.

PURPOSE Of The BUSINESS INDUSTRY FORUM

The State Council's purpose for conducting the forum was to comply, in spirit and specifics, with the requirements of the Carl D. Perkins Vocational Education Act. This forum was held to solicit public input on vocational and technical education. The forum yielded information about the present and future needs of business and industry, how these companies perceive the role of secondary vocational and post-secondary vocational education in today's society, and the private sector role in the education of today's workforce.

The recommendations were derived from the dialogue, but tempered with the collective perspective of the Council, and are the Council's recommendations.

SELECTION OF PARTICIPANTS

To get a cross section of individuals representing business and industry, Council staff obtained names using referrals from business leaders in the State. Individuals selected were chosen from a list of people who were actively involved in employment problems and education, representing a range in number of employees, producing a variety of products or services, and located throughout the state. The final list of participants represented companies from across the State of South Carolina that ranged from 12 to 20,000 employees. The individuals represented various services and products.

Mr. Toby Chaffin, Vice President of Human Resources for the State Chamber of Commerce was selected as the moderator. He assisted in establishing the rules for the forum. He was also charged with motivating, stimulating, and assuring complete discussion of the listed topics and questions during the sessions.

PARTICIPANT PREPARATION

Each participant was given a description of the reasons for the forum and how the results would be used. The forum provided an opportunity for the business and industry leaders to meet together as a small group to focus in on the problems of a qualified workforce, focusing on communication between business and education and communication between these groups.

To prepare the participants for the forum, they were sent a list of "Beginning Thought Provokers." These were general questions sent out three weeks prior to the forum to start all participants thinking about problems and possible solutions. Additional materials were provided to insure that all would be using common terms and meanings. Among the materials provided were: Vocational Education Terminology, a brief statement about the Council, and a copy of the Council's federal requirements.

PHOTOGRAPH OF PARTICIPANTS

Participants: **Left to Right (Top Row):** Mr. Jack Mullins, Ms. Cathy Novinger **(Center Row):** Mr. Marvin Johnson, Mr. Frank Benson, Mr. Wayne Nappier, Mrs. Leslie Wrenn, Mr. Everett Crafts, Mr. James Smith, Mr. Jim Frieze, Jr., Mrs. Marita Eden, Mr. Toby Chaffin, **(Front Row):** Mrs. Dorothy Aranda, Mr. Tommy Myers. Mr. Charles Spainhour not present.

THE BUSINESS AND INDUSTRY FORUM PARTICIPANTS

Mr. Toby Chaffin **Forum Moderator**	State Chamber of Commerce Vice President of Human Resources	Columbia
Mrs. Dorothy Aranda	WLOW Radio Station Owner	Hilton Head Island
Mr. Frank Benson	Sonoco Products Company Personnel Manager	Hartsville
Mr. Everett Crafts	Milliken Research Corporation Director of Education	Spartanburg
Mrs. Marita Eden	Elliott White Springs Memorial Hospital Dir. of Human Res./Marketing Services	Lancaster
Mr. Marvin Johnson	E.I. Du Pont de Nemours & Co. Support Manager	Charleston
Mr. Jim Frieze, Jr.	Hoechst Celanese Corporation Manager of Human Resources	Spartanburg
Mr. Jack Mullins	Blue Cross and Blue Shield Assistant Vice President	Columbia
Mr. Tommy Myers	Springs Industries, Inc. Director of Programs	Fort Mill
Mr. Wayne Nappier	Marriott Hotel Director of Human Resources	Columbia
Ms. Cathy Novinger	SCANA Corporation Administration and Government Affairs	Columbia
Mr. James Smith	Greenwood Mills Group Manager of Personnel Services	Greenwood
Mr. Charles Spainhour	FMC Corporation Human Resources Manager	Aiken
Mrs. Leslie Wrenn	NCNB National Bank of SC Assistant Vice President	Columbia

THE FORUM

The Council wanted to conduct the forum in a environment that was conducive to productive thinking. The Marriott Hotel in Columbia provided an excellent setting for the "Think Tank." The Council wanted an environment which would allow each participant to respond freely with any information or thoughts that they might have. Each person was encouraged to add information at any time to the topic being discussed.

The seating was a square hollow table, so that all the participants could see each other and hear without difficulty.

THE AUDIENCE

The audience represented a wide sector of state agencies, members of the legislature, and representatives of public education that are involved in providing vocational and technical education.

Selected representatives of the following agencies, organizations, and institutions were invited:

S. C. House of Representatives

State Dept. of Education, School Improvement

State Dept. of Education, Special Programs

State Board for Technical and Comprehensive Education

S. C. Vocational Directors Association

S. C. Voc. Guidance and Placement Assoc.

Small Business Administration

State Chamber of Commerce

Technical Colleges

State Department of Education, Office of Adult Education

S. C. Commission on Women

S. C. Senate

Job Training Partnership Act (JTPA)

Vocational Education Centers

Governor's Workforce Initiative

State Dept. of Education, Office of Vocational Education

The audience was seated around the perimeter of the room to allow good visual and auditory access to the participants. The audience, during the forum, was instructed not to interrupt the discussion in order for the forum participants to fully discuss the topics. The last 30 to 45 minutes was reserved for the audience to ask questions and to ask for clarification on information presented. This was to be a session for explanation or reinforcing, not arguing or disagreeing with the statements made by the participants.

NOVEMBER 27, 1989: THE FORUM CONVENES

At the beginning of the meeting, the guests were welcomed by Council members and staff and introductions were made. Following the welcoming remarks, two video tapes were shown to set the stage for the remainder of the day: President Bush presenting "American Success Awards" to former vocational and technical students in the Rose Garden at the White House, and a CBS report on the Great Oaks (Ohio) Joint Vocational School. The agenda for the day's activities is included in the Appendix.

Immediately following the videos, Mr. Toby Chaffin, the moderator, began the first session by posing the first question. The questions were prepared by the Council staff to encourage discussion on the topics pertinent to the federal requirements of PL 98-524, Section 112 (d)(2)(A),(B) and 112 (d)(5) and (7).

The discussion topics included: training programs conducted within companies, programs operated by other agencies that train people in employability skills, the relationship with secondary vocational programs and technical colleges, problems dealing with employees that relate to previous training or lack of training, the skills needed for current and future jobs, employment of the handicapped, and other related topics.

The specific topics and questions are provided, with selected responses, in the main portion of this document. The responses are grouped with the questions that were used to stimulate the discussion during the morning and afternoon sessions.

FORUM TOPIC AREA
QUESTIONS AND RESPONSES

CURRENT REQUIREMENTS FOR EMPLOYMENT

Question 1:

What level of education is required for employment at your company?

Responses:
Generally, the lowest educational level of new employees that were hired in as entry level personnel was the eighth grade. This was particularly true for employment in a mill. The grade level increased to high school level in most of the other companies represented, with the exception of three companies. The E.I. Du Pont de Nemours & Co. require mechanics and technicians to have an associate arts degree or the equivalency because of the degree of job responsibility. In the area of hospital job employment, people are hired with high school education, but most employees have a two-year Associate Degree educational level. College graduates were hired for highly technical jobs in communication and utility companies.

Bottom Line: In other words, job opportunities for persons with less than a high school education is diminishing rapidly while there is a growing demand for persons with post-secondary education.

The responses contained in this section are essentially quotes by the forum participants, except for questions, bottom lines, prologue, and editorial additions for clarity.

Question 2:

What is the general level of education of the people employed within your particular company?

Responses:

Everett Crafts - Milliken Research Corporation:

The Milliken Research Corporation has worked with many state agencies to provide a test to determine where the level of proficiency actually is among its employees.

James Smith - Greenwood Mills:

It was determined, after implementing a voluntary assessment program, in which approximately half of the employees have completed, that probably 22% of the employees who took the test are functioning at the eighth grade level or below. Out of every group assessed, about 10% to 15% really needed to work in a literacy program. Another group, about 10% to 15%, with some short brush up work could pass the GED. The rest of the employees assessed fell in between those skill levels.

Wayne Nappier - Marriott Hotel:

A personnel selection inventory, which is written at the eighth grade education level, is given to applicants. They have seen a high number of applicants that were interviewed fail this inventory.

Bottom Line: Generally new applicants are testing around the eighth grade education level or below. New applicants and employees are generally lacking in the basic skills desired by employers.

The responses contained in this section are essentially quotes by the forum participants, except for questions, bottom lines, prologue, and editorial additions for clarity.

Question 3:

What educational requirements beyond general education are expected of new employees?

Responses:
This list is extensive as new employees tend to lack more than the basic skills.

self-directed	self-motivated	aptitude for new learning
comprehension skills	communication skills	good self-esteem
commitment to job	goal setting	positive attitude
cooperation	following directions	safety procedures
proper grooming	writing skills	skills for advancement
computer literacy	spelling skills	self-management
problem solving	decision making	flexibility in job alterations
management skills	reading skills	future job skills
math skills		

Mr. James Smith is concerned about people who come to work and don't have the foggiest idea why their job exists and why they have to exert more effort beyond showing up, punching a time card, and walking out the door at the end of the day. The employee asks, "Why should I really do anything?"

What we are learning from our world class competitors is that you have to learn more about the process to the extent that you can stand in the middle of the process and understand it from one end to the other. You need to ask the question, what is it going to take to get a product out the door that is better than your competitors?

If we could instill quality workmanship, a caring about the product, why we work the way we do, then a company could be competitive. Lots of people have the impression that companies create all kinds of problems. Employees asked, "Why don't you pay us more?" Well, in the textile industry, if you can make two or three cents on an investment dollar you are doing well.

Charles Spainhour - FMC:
Companies can teach employees how to provide an expected service, but the thing that is difficult to teach is how to get to work on time, displaying a good attitude,

and good self-esteem. If you have the type of person that comes in and meets those qualifications, I think you will agree that you can train him/her.

Bottom Line: New employees are lacking job keeping skills and good self-esteem. Without these skills, employees find it difficult to progress to higher level jobs.

Question 4:

What skill requirements are not being met for employment?

Responses:
The BASIC SKILLS: Reading, Writing, Spelling, and Math.

Bottom Line: Students are deficient in the basic educational skills area, have low self-esteem and also lack basic job keeping skills such as being dependable, reliable, and being able to get along with co-workers. If they have the basic educational skills when they get out of school, most of other concepts can be learned in industry.

Questions 5 and 6:

What is the availability of a potential workforce?

Do you have a problem getting sufficient applicants?

Responses:
Since applicants are plentiful, the E.I. Du Pont de Nemours & Co. doesn't advertise for vacant or new positions, but the personnel department has to go through a lot of screening to fill positions. One participant stated that he has to interview 1500 people to get 10 qualified employees.

The hotel service industry must interview 80 to 100 applicants a week for a variety of positions. The turn over rate industry wide is 210%. In Columbia the turnover rate is 85%. It was stated by Mr. Nappier that this is one of the few businesses that

you can go into and start out as a room server and advance to general manager if you apply yourself. Quite often, he said, there is a lack of commitment and basic skills from some of the associates (employees).

Dorothy Aranda - WLOW
Another aspect of a potential workforce that is essential is flexibility. Does that person have the necessary skills, educationally and personally, to move into positions that are beyond the initial entry level job?

This is evident at WLOW when an applicant is screened not only for entry level skills, but for potential for growth within the company. It is always easy to replace a clerk. How trainable is that clerk - receptionist to be a traffic manager? The clerk's lack of perception of becoming a traffic manager almost negates her being able to function. She is intimidated by the role. Mrs. Aranda is then caught with motivating, stimulating, and gearing the clerk up to a more advanced position. Until you can get flexibility from your staff you are locked out of things. Primarily it is a matter of taking that local person who is going through the Tech. program and saying to them, Where else do you want to go? What do you want to be when you grow up? A twenty-two to twenty-four year old is certainly not going to end her life at the receptionist desk." Mrs. Aranda related that early in the interview she determines if the person has potential growth and so is employable. Otherwise an employer locks oneself up with someone who cannot function for you. This results in being locked out of moving that person into other positions within the company.

Leslie Wrenn - NCNB:
Even out of approximately 100 applicants per week, NCNB finds it difficult to hire appropriate employees to fill openings in the operational division. Employees must have a number of skills including the aptitude to learn while training and the aptitude to learn while on the job.

Everett Crafts:
The method that was used previously by employers was that when people came to work they were to check their brains at the door. We are going to tell you what to do, how to do it, where to do it, and when you leave in the afternoon pick your brain back up, go home and run your household and family, make decisions on buying houses, automobiles, and other major large purchases, but don't think at work. No longer is this true. Companies are beginning to increase the span of control for

supervisors as they have more and more people to supervise. This in turn reduces the number of levels of management. In essence, employees will have to learn to manage themselves. Therefore, they will need better personal skills, especially communication and problem solving skills.

Dorothy Aranda:
Some people, when completing an application, list English as a foreign language. These are young people, between the ages of 18 to 24 years of age, who are looking for entry level positions. A basic position is exactly what they will get, Mrs. Aranda said. They may have a good work record, but when they are offered the opportunity to go back to school for additional education that is related to the programs at work, they don't put forth the effort, even when the company subsidizes the cost through tuition assistance. They will not make a commitment to improve their employment status.

Jim Frieze:
Companies generally are dealing with many young people who have very low self-esteem. He would like to see as part of the educational challenge a method built into the system that instills in individuals a feeling of self-worth. This is a tremendous challenge since the lack of self-esteem creates in the individual the inability to reach his or her maximum potential in an industrial environment.

The personnel department at Hoechst Celanese Corp. puts much emphasis on the interview process. The interviewer seeks information from the application in regards to the applicant's achievements, such as scouting, in an effort to hire people with good self-esteem and a positive attitude. Hoechst has a big turnover which allows them to select only the best applicants.

Marvin Johnson:
The problem is throughout the nation. Du Pont has some very fine candidates, but the company has to go through quite a few people to derive these better employees. The personnel people at Du Pont Company and Job Service team up to do the screening process.

The responses contained in this section are essentially quotes by the forum participants, except for questions, bottom lines, prologue, and editorial additions for clarity.

Cathy Novinger - SCANA\SCE&G:
The utility business has two sets of problems that deal with employment: computerization and retraining. Both problems are created by advanced technology. Another problem is keeping approximately 900 employees motivated and challenged. Many of these employees have baccalaureate degrees and one third of the SCANA workforce comes from the technical division. Most of the technical people have a 13 year background in education.

Several factors help maintain SCE&G's stable workforce. One factor is that the people who enter the company have a high level of education. Secondly, they are highly professional and motivated. The company does not have a problem getting employees. Once the employees begin their jobs they can take educational courses. Many careers demand that they pass certain segments of the International Correspondence school program before they can go on to the next step. Continuing education and training occurs within the company. The company also has a history of good benefits and good pay. These factors keep SCE&G's turnover rate to approximately 3 1/2%. Last year 10,000 applications were received and only 300 people were hired.

Mrs. Novinger stated that the utility company is on the verge of change. People who will be displaced by technology may not have the skills to do the job of the future. That is the biggest problem, retraining present employees.

In Aiken, there is essentially zero unemployment. Within FMC the employees hired have proven to be trainable. Mr. Spainhour is amazed that there are people in the factory that are trying to get by with a high school education. Companies that FMC might compete with in Canada have people with college courses in engineering doing the same jobs as the high school graduate here. The problem is that we are going to be suffering, if not already, from a lack of a trainable workforce.

In an effort to expand the company FMC Corporation set three top strategy issues. One of the three issues was the availability of a trainable workforce. The company goes through thousands of applicants to hire 20 people. They find that the other industries in Aiken are trying to hire the same twenty people.

Bottom Line: To get qualified employees companies must interview a large number of applicants. The industry representatives see a big problem in the future with the lack of a workforce that has sufficient education to be trainable.

The responses contained in this section are essentially quotes by the forum participants, except for questions, bottom lines, prologue, and editorial additions for clarity.

Question 7:

What changes or programs would you recommend that secondary vocational schools and technical colleges make to accommodate your company's needs?

Responses:

Charles Spainhour:

One of the reasons for there not being a trainable, skilled workforce pool to select from, is a serious problem which has been partly created by the image of doing work that does not require a four year degree. It was suggested that we go back beyond high school, beyond the middle school, and get back to where it all begins — the elementary school. This is the place where the image of vocational education needs to be upgraded. Vocational and technical education has to be viewed as a desirable career path. FMC Corporation is trying to do just that. The company is sending role models into the elementary and middle schools. The idea is to raise the image of vocational education. While the image is being improved, the curriculum also should be upgraded. The upgrading of curriculum should begin at the high school level.

Five years ago FMC hired welders from the technical college. Once on the job the company realized that these welders could only do horizontal and vertical welding, and pipe welding. The welders could not do simple shop math or read a blueprint and they did not understand geometric dimensioning and tolerancing. In comparison, people coming out of the technical schools in Europe and Canada can do all those things, and much more. The technical students also need skills in how to work as a team, problem solving, and management skills. Custodial vocational education is a thing of the past.

Dorothy Aranda:

Another problem that stems out of the schools is the problem of perception, people knowing what they want and how to get there. This brings us back to the image of vocational education. The focus here is with the guidance counselors who direct most of their attention to college bound students. The idea that Johnny is going into a vocational area means that his Mom is unacceptable socially because her child is not attending college. Vocational students coming out of high schools lack a positive image and skills. At this point it is too late to supplement what has been lost over the years of schooling. To avoid this situation guidance counselors need to be made

aware of the technical needs in the community. Do guidance counselors know what it takes to become an air conditioning technician? Are we training guidance counselors to counsel the young people who are going to be hired in vocational and technical areas?

Are technical colleges training students for future needs? I have the only radio station of its kind in the Southeast, as it links three computers together. Within ten years this will be the direction of the future. In-house training is done since there is no one out there trained to operate this system. Is anyone dealing with this? We need to talk about the people who are going to replace us in the future.

Career education is not a typical topic in communities. Vocational education needs advertising and promoting to create an image. It needs to have its image promoted in a positive light.

Marvin Johnson:
The guidance counselors in high schools promote the prestige image of college education because they do not associate vocational education in the proper manner. Students do not understand the relationship between technical education and vocational education to engineering and other courses. Many plants will provide students with the opportunity to educate themselves. Many have tuition refund programs. They can make $35,000 a year and at the same time go to college and get whatever kind of engineering degree they want.

A telephone technician at Du Pont just passed the $65,000 salary level. He works considerable overtime or it would have been $35,000, but that is still a pretty good salary. He also has the opportunity to make $65,000 to $75,000 a year with overtime. The welder and the pipe fitter are looked at as doing "dirty work." In an operation like ours, these positions are essential. We can run our process years without a doctor, but we need pipe fitters and welders.

Another problem that stems from the guidance and administrative divisions of public secondary vocational education reflects back on the image of vocational education. Test scores are used to determine which students take vocational or college preparation courses. The students with the lowest test scores seem to be the ones scheduled for vocational courses, while the good math students are placed into the

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college track. Vocational programs require students with good math and communication skills, not just the slower students who lack the basics.

This is the same for technical colleges. The hard core unemployed don't have the basic skills. The counselors are taking the people that they really feel like are incurable in some cases and they are pushing them into technical schools as opposed to taking people that are good and will service the industry. It is true. If you don't believe it, look at what you are getting out here today. Go back to the elementary schools and develop the concept that people have several paths they can take in employment.

The question arose that businesses are trying to get into the school district's business. Well I have news for you, the school districts are in our business and that is the reason we are having the problems we are having.

Charles Spainhour:
Someone coming out of high school with a vocational education background ought to be able to go to college and succeed. That really isn't where vocational education is presently. During my last two years in high school, I was in electronics. Starting my junior year I wanted to be an engineer. After talking to the counselor, he convinced me that I wasn't capable of doing college level work. It took me several years to figure out that he was wrong. Most kids never get there. Once they have been led astray they seldom get back on track.

It is great that many companies are locating in South Carolina. Those of us in industry are asked to talk to these companies who are considering locating here. I can only speak for FMC. I would guess for every one new manufacturing job we get here in Aiken, we lose ten because there is a lack of a trainable, skilled workforce in the area. I know we are doing many great things, but we have companies that are routinely scouting the area. We have an industrial park where our plant is located that hasn't had a new industry established in it for years. There are several empty buildings. The companies that are looking are assessing these situations. They ask us quite frankly if we are having trouble attracting and retraining the workforce at the average pay rate of $11.00 per hour. The answer is yes. The availability of replacement workers is virtually nonexistent. You have heard the stories from the other companies represented here where they go through 5000 applications to hire 50 people.

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I guess the area where I see a need is the appropriately 3,500 unemployed people in Aiken County. The reason I believe most of those 3,500 who are unemployed and unemployable is because they don't have a basic education. I have talked to representatives from around the state and have heard about similar situations. We can't get too comfortable because we are losing more employees than we are getting.

Ten years from now there will still be 3,500 hard core unemployed people in Aiken County. You can multiply that by the number of counties in South Carolina. Those are the people that I think the school system isn't addressing at any level today. I don't think their needs are being met. Somehow we have to get to them.

Bottom Line: Guidance counselors need to become more aware of the needs of business and industry. They need to start in the elementary schools to provide children with the information needed to make solid judgments about career options. Students who are good in math, reading, and communication skills need to be encouraged to take vocational courses, whether or not they plan to attend college.

Question 8:

How are secondary vocational schools and technical colleges working with your company to provide the highest quality employees?

Responses:

Dorothy Aranda:

The schools are allowing representatives from business and industry to make speeches and presentations to students about careers. This is the time to talk to youngsters where their interest lies - material items. For example, students ask the question: What will I make? $3.35 or $4.00 an hour is not making a living. Young people don't understand that taking a job at McDonald's for $5.00 an hour, instead of J.T.P.A. training, is a dead end position. Talk about the realities.

Teachers do not have to come into a business. Business needs to go to her/his classroom. A business person does not need to impact on just one person, but

she/he needs to impact on the whole class. I need them to know that to write a radio commercial is English.

Frank Benson - Sonoco Products Company:
Sonoco Corporation has formed a group called Sonoco Volunteer to Education. The employees were surveyed as to what knowledge they could share with the local educational community from grammar school through technical college. Volunteers get time off from work when the company schedules them for an educational program. They actually go into the schools and talk to guidance counselors. We tell guidance counselors what we are doing and what we expect. We don't rely so much on the teacher that has been a fourth or fifth grade teacher their whole life, who has been using the same old teaching principles. Instead, we give that teacher support by providing role models. A role model may be an electrician or pipe fitter that makes $50,000 a year, so that children understand that they can make an excellent living with what they learn at school and through vocational courses. These employees talk on specific subjects or show students know to use computers and other equipment. They also show the teacher how to utilize the computer. The employees encourage, help, and show teachers what the company wants out of the students in the future.

James Smith:
After speaking to a 11th and 12th grade group at the vocational education center, Mr. Smith realized that the majority of the people in the class, as well as administrators and instructors, did not know the entry level rate of pay, the benefits that go with it, the advancement levels that one can move into, or the skills required for working in the textile industry.

Charles Spainhour:
In Aiken, the FMC Corporation is trying to make some changes. We went to visit the vocational career center and the technical college to see what was being taught. We frankly had our eyes opened when we found out that someone can go to a technical school for a year or two in a welding program and literally have no classroom instruction. These students were placed in a shop without instructions. They were burning up welding rods and working on neighbors' cars without learning anything about the theory of what they are doing. We are working with the technical school to try to get them to upgrade the curriculum to include the skills

that are needed to get a job. Those skills are: math, problem solving, reasoning ability, reading, and writing.

We are getting plenty of cooperation from the Aiken Technical College and the Aiken County School District in trying to upgrade the curriculum to get students beyond the custodial vocational training stage into technical skills.

Jack Mullins - Blue Cross and Blue Shield:
In Florence, in the Blue Cross and Blue Shield office, there are about 1000 people employed. In January another 500 will be added to process claims. Last year the company worked with the local school districts to start a program both in the high schools and in the adult education center. Adults are selected into the program based on recommendations by the faculty and other relevant people. The Job Service is involved in parts of this program. Adult students pay the fees for the several courses that are involved in the training. The initial course gets the student to a specific level of strokes. The next class increases strokes. Once they have completed these courses, the next steps consist of classes in medical terminology and coding. Upon successful completion the students are guaranteed employment and the enrollment fees are refunded.

The high school students essentially learn the same skills. Upon completion of the classes, provided the student is still in school, the company has a practical application class where the student actually codes and processes claims under supervision of the claims division within the company.

Bottom Line: Business and industry, finding a lack of updated information in the schools, are taking an active role in what occurs in the educational system. Representatives from companies have developed relationships with schools in which employees assist and support the teacher, provide current data about salaries and career opportunities. Representatives from the working world outside of schools realize that students are interested in the realities of life - How much money will I earn?

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Question 9:

What percentages of employees are hired at the entry level positions?

Responses:
FMC Corp.: 100% blue collar workers
Springs Industries, Inc.: 75%
Greenwood Mills: 80 - 90 %
Milliken Research Corp.: 90%
WLOW Radio Station: 10%

Bottom Line: The companies represented above, with the exception of WLOW, employ most of the persons initially in entry level positions.

TRAINING AND RETRAINING PROGRAMS

Question 10:

In what ways does your company support and encourage further training and education?

Responses:
James Smith:
The Greenwood Mills became involved with the Governor's Workforce Initiative in July of 1988. The first group of employees went through the literacy training. There were about 61 in three different classes. In August of this year, we had a graduation dinner for 21 of these people who moved from illiteracy into adult education. For the first time the family unit is involved in the educational process. The husband and children are preparing dinner while the mother is at school.

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This involvement with the Governor's Office has gotten people from 40 to 60 years of age back into the educational system. They wouldn't survive if they had to go through a traditional approach. The mill is developing in this program a process from illiteracy, to adult education, to technical education.

When an adult education director was asked about modifying program times, the response was that the school system can alter the time that classes are held, but no Saturday or Sunday classes. Many people in companies usually have Saturdays and Sundays that they can attend classes. Since this was a problem, one company in Spartanburg developed a solution. They purchased a computerized learning system. They have the lab for their employees and their dependents. The lab runs 7 days a week, 24 hours a day. Even the children and spouses can take advantaged of the programs by learning to spell, read, and learn employment skills.

A new program is being developed in connection with the JTPA program. The difference is that children work six hours a day during the summer, then teacher comes in and teaches one hour of English and one hour of math. The remainder of the time for the students would be on the job, where they learn job keeping skills. Students are paid for the full day.

Jim Frieze, Jr.:
The Hoechst Celanese Company does a needs analysis of the greatest current employment needs and future employment positions. Once the needs analysis was completed the company provided technical scholarships in Spartanburg to have people trained in these areas.

Milliken and Spartanburg Technical College work together to select students for an exchange type program. The students work at Milliken where they can get the needed skills for future employment.

Bottom Line: Education has to be looked at from a different perspective today if the unskilled laborer is to be trained and retrained for entry level and advanced jobs. As Mr. Myers stated, "the company wants to keep the older valuable employee who has a limited education. We can teach them to some degree, but they have to have that basic foundation."

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Question 11:

Does your company have training programs within the company?

Responses:
The Milliken Research Corp. has the technical college locate programs within the company to deal with specific needs. These needs generally are in the technician field and electronics.

In the Lancaster area, the York Technical College conducts about twelve different sessions in the Springs Industries facilities. The College and Springs interact with ideas back and forth.

The Du Pont Company cooperates with the vocational schools in a cooperative program. Everyday there are students entering the company. Contractual instructors, contracted by Du Pont, from the technical college come to Du Pont everyday.

One company had a surprise call from several secretarial students. The students volunteered to work as cooperative (co-op) education students one day a week, at no cost to the company. The students were evaluated by the school for skills required by the specific business course they were enrolled in at school. The program was very successful for several reasons: the students provided extra staff, the students accepted challenges, the students wanted to learn, and the students received hands on training. Most of the females, once they finished their education, were employed by the company.

The Du Pont company runs training programs for personnel and technical training. This training involves personnel and planning functions.

Leslie Wrenn says that principals and teachers are invited to sit in on the self-evaluation sessions conducted by NCNB.

In a smaller business like WLOW, Mrs. Aranda tailor makes the training to fit the individual. When an individual lacks specific skills, Mrs. Aranda can zero in on the problem using either materials provided by the radio advertising bureau or materials she designs herself.

Milliken Research Corp. uses SPC training. After select personnel were taught how to teach SPC, they began teaching in house so that outsiders are not brought into the plant. SPC is taught as a team of 6 to 8 people. There are participating manager programs and the self-directed work teams within Milliken. The biggest problem is with the management people as they are hesitant to accept the responsibility of work teams. The manager feels threatened in fear of having to give up authority.

Bottom Line: Some of the companies are striving to provide in-house training programs for employees to improve their skills and for educators to increase their knowledge about the company.

Question 12:

How can your company influence changes in the educational system?

Responses:

Dorothy Aranda:

Business and industry people should make themselves available for public offices, like the school board, that will make an impact. Mrs. Aranda mentioned that it is the community versus the school board where she lives. Since this is a concern, we have to become a part of the barrier to the problem, instead of sitting around here discussing the problems and potential solutions.

Tommy Myers - Springs Industries, Incorporated:

We as an industry should be able to influence the percentage of money that is delegated to education. We are involved in the legislative process and as long as we are willing to let this state spend only 1% for adult education, we are going to continue to have poorly skilled people.

Marita Eden - Elliott White Springs Memorial Hospital:

We are talking about the hard core unemployed. They are unemployable because they don't have the basic skills. Why can't we in industry offer today a basic form of unemployment insurance for anybody that is unemployed for more than four weeks. The person would have to take a test to determine if his/her skills need

improving, if so, the person goes to school while they are not employed. All we would have to fund is the teaching staff.

Mentoring programs need to be considered.

Bottom Line: To cure some of the problems between business and education, some of the participants stated that their influence should be felt in politics, especially on school boards.

THE DROPOUT

Question 13:

Are there any efforts by your firm to work with school districts to prevent students from dropping out of school?

Responses:

Charles Spainhour:

To help the underachiever, not the college bound student, FMC representatives talk to these students to explain to them that when you are 10, 11, 12, 13, or 14 years old, no one should convince you that you are incapable of doing anything. FMC also sends employees in to schools as role models. These employees have only a high school education and have become successful in the company in engineering or managerial positions. They let the students know the route they took to be successful. This can make a big impact on the students.

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Dorothy Aranda:
Another concept that is being used is where the employee and the employer join together to form a parental involvement. In essence, when an employee's child is having difficulties at school, the employee's attention at work is divided. The employer takes an active role in the child's education and in turn gives the teacher and parent a support system. The parent can get release time for conferences during work hours. The parent's loyalty increases at work and the company can get inside the school system and see what is going on from the parents' point of view.

Tommy Myers:
Look at where we are, where we are going. Thirty-five years ago this State was like a third world country. Maybe the educational system is going to have to do more of what Central Europe has done in the homes. Many young people are growing up in less that ideal environments because their parents have less opportunity. School people say we have unmotivated students and we see that in industry. Whether it is attendance or health, I think the schools are going to have to go back to the basics. These things are supposed to be done in the home, but in some cases it is not being done. The students need the basics to move forward.

Marvin Johnson:
A child can't be inspired if the parents are not inspired. The child can't value education if the parents haven't valued education. I don't think we can write off all the students and children in this state that don't have sufficient inspiration at home. I don't know what the solution is unless the schools start filling the void created by the parents.

I also think we have put too much burden on the schools. We expect schools to lead the way with every major sociological change in the society. We expect the schools to bear the brunt of that and at the same time we expect the schools to educate the kids. Parents tend to delegate the responsibility of child care and rearing to the church, boy scouts, girl scouts, to schools, and other organizations, instead of being the role model for their children. We need to stop expecting the schools to work magic.

Having good parents as Mr. Johnson did is important, but he found that the most influential people in his life were on the outside. It so happened that those people

were exemplary, good role models that set good examples. Everything that adults get involved in should set a good example.

Tommy Myers:
Several of the participants at the forum felt that mentoring was a viable form of making a change on a one-to-one basis with students who are potential dropouts. Tommy Myers shared a story about his father who was one of twelve children. His father ended up with a Ph.D from a university and was very successful as an educator. His father's success was the result of the influence from one teacher.

Frank Benson:
Mr. Benson suggested that the names of dropouts, who had resisted the help of an educator, be received from the local school district and shared with an industrial person. A person in the industrial world could contact that ex-student, talking from the heart, and relate to him/her what skills are necessary on the outside. By showing the young person the interworkings of the company he could explain that without an education the opportunities for employment are slim. A role model relationship would be established to answer questions and to encourage the young person to re-enter school.

Everett Crafts:
Mr. Crafts was planning on visiting a dropout program in Detroit developed by Father Cunningham. Because of a 60% dropout rate, Father Cunningham started his own school and his own company. The company employs 1000 people, including disadvantaged young people. The result has been a decrease of dropouts to a 0% dropout rate. The company makes transmissions for General Motors. There have been other companies that have spun off from this company.

Mr. Crafts believes that the elements of involvement and caring were the reason the dropout rate plummeted to zero.

Some companies have gone on record to state that they will not hire students that are school age. They encourage the students to stay in school. After the students reach a certain age and graduate from high school, they will be hired.

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Charles Spainhour:
There has been some positive changes from the primary grades through the technical college level and in the development board during his eight and a half years in S.C. He thinks the environment is right, but the problem is there. He feels there is one element of the population, the hard core, that is not being addressed.

Bottom Line: More attention needs to be given to determining how people in business, and industry can really help in our schools. People need to become involved and truly concerned about the students who are dropping out of the system. One successful method of showing concern is to become a mentor to assist a young person in understanding employability skills, work ethics, and reasons for learning while in school. People must also be good role models.

Question 14:

Do you hire dropouts?

Responses:
Tommy Myers:
Springs Industries deals with a large number of people who drop out of school. We are either last or next to last in the percentage of high school dropouts in the nation. It is hard to motivate people when they are not part of the system. Dropouts are an overwhelming problem in this State. I think it is one of the basic roots of the problems we have discussed and we as business people need to do everything we can to change the statistics.

Charles Spainhour:
A considerable percentage of the adults holding a high school diploma can't pass an 8th grade basic occupational test to get in a special school training program. At FMC there are some high school dropouts that have done very well. These people became motivated later in life, went back to school and passed the GED. FMC Corporation has not had much success in recruiting dropouts. The dropouts tend to be underachievers.

Marvin Johnson:
The Du Pont Company gives tuition grants for dropouts to go back to school during the summer in an effort to get the people motivated so that they can be employed in the plant. This program is conducted through Social Services.

Cathy Novinger:
SCE&G is working with the national Dropout Prevention Center in Clemson to sponsor a statewide program that will begin this spring. This program is to encourage students to stay in school by having a pilot school program in Swansea, S. C.

Bottom Line: Dropouts are an underlying problem to qualified entry level employment in South Carolina. These students need motivation and encouragement to stay in school. Companies are joining forces with JTPA, Social Services, and the National Dropout Prevention Center to develop programs to help potential dropouts become eventual entry level employees.

Question 15:

What suggestions do you have to resolve the problems that cause dropouts?

Responses:

1. Mentoring: To lend a shoulder and time on a one-to-one basis.
2. Visit Schools: This would be a part of the management role of the company.
3. Scholarship Funds.
4. Work with students.
5. Coordinate and integrate institutions into a consolidated unit: schools, churches, the home, boy scouts, etc. instead of isolated parts of society.
6. Volunteer in a school to teach: sometimes the school system cannot accommodate a program, but the system can accommodate a volunteer.
7. Internship system where students at risk would work half a year in a company as an intern with pay and the other six months they would attend the vocational center under the supervision of the instructor.

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Bottom Line: The suggestions provided by the participants are worth exploring. They could be used singly or collectively.

Question 16:

Are there any efforts by your firm to work with school districts to prevent students from dropping out of school?

Responses:

Dorothy Aranda:

I approach education in an entirely different way. I find the youngsters I talked to, one-on-one, mentioned first that what they are learning is boring. I take the subject out of context. A good example is teaching a class how to write a commercial. It is a writing skill. We give it a practical name. Kids are now so conversant with the practicalities that adults do from day to day, that we need to start at the 3rd and 4th grades giving things meaning.

You are not reading in isolation, not writing in isolation, and we don't learn geography in isolation. It all has a bearing on the whole. Start making them aware. These children are articulate today. They are television wise. We are not utilizing that broad spectrum of knowledge that children have. We are still thinking of reading and writing as two parts.

Youngsters are starting companies. Seventeen year olds can see the whole picture, if we would only give it to them. We in industry say that children need math and people skills. Have you ever listened to a four year old manipulate a parent when it is time to buy an Nintendo. Listen to the child say: I'll tell you what I will do Mom, I will clean my room, I will behave, and wash the dishes if you do this and that. This is a four year old. We don't see this as a skill. Take that youngster and give him something to stimulate him and let him go to it.

We are teaching a smoke stack education to a futuristic society of youngsters. We can't do that anymore. We can't wait 5 or 10 years. We have to start it now on a one-to-one in the classroom. Share with the teacher how you teach math. We are just too traditional and we have to get away from the old way.

Bottom Line: Companies are going into schools to teach a total concept of learning. Reading, writing, math, science, history, and all other subject areas need to be integrated in relationship to career awareness.

THE HANDICAPPED AND OTHER SPECIAL NEEDS POPULATIONS

Question 17:

Does your company actively seek handicapped and other special needs populations as employees?

Responses:
James Smith:
The Greenwood Mills Company has done limited recruiting, since there are only certain jobs that lend themselves readily to the handicapped individual. It is felt that as newer technology and processes are utilized there will be more people from the special needs populations employed.

Greenwood Mills has a plant located close to the Whitten Center at Clinton. The personnel manager at the plant has a good working relationship with the administration from Whitten Center. This has provided opportunities to hire some of their people who can work on their own. It is amazing that this is the first time that these people have had a full time job, earning their own money. In some cases, these employees have to be told to take a break. Otherwise, they would work eight hours straight. There is never any problem with attendance or their getting to work on time. The partnership between Whitten and Greenwood Mills has been a great success.

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Cathy Novinger:
SCANA has been successful in recruiting handicapped employees. When you look at the sick leave record of employees, it is amazing that the handicapped aren't the people who are staying out ill. I think we are very fortunate to get quality people.

Mr. Crafts states that the handicapped individuals really appreciate being given the opportunity to work and they become very loyal people to the company. The biggest concern is the safety of these employees.

Springs Industries, Inc. work with Vocational Rehabilitation people particularly when the company has special projects. Vocational Rehabilitation provided both handicapped and nonhandicapped workers. This has proven to be mutually beneficial.

The Columbia Marriott Hotel has employed people that were deaf. Vocational Rehabilitation came out and did some classes in the use of sign language. It was hoped that at least 10 people would attend the class from the work area where the deaf employees work. Instead 40 people showed up on their own time to attend that course, because the two deaf individuals had made such an impact in the hotel. Now more people will be able to communicate with them.

Bottom Line: Handicapped individuals tend to have the motivation and job keeping skills necessary to achieve a high level of performance on the job. Several employers have success stories about hiring the handicapped and in developing a working relationship with the Vocational Rehabilitation Center in the area.

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RELATIONSHIP TO VOCATIONAL AND TECHNICAL EDUCATION

Question 18:

Is there a liaison person or staff member in your firm specifically designated to work with the secondary vocational schools and the technical colleges?

Responses:
Mr. Johnson stated that the position of liaison is so important that he appointed himself as the designated person.

Mr. Spainhour is the community person, but FMC mandates that they get involved in the community.

Bottom Line: Most companies have not provided a specific person as a full time liaison contact between vocational education, technical education, and the company.

Question 19:

What plans do you have to expand your relationship with these educational facilities?

Responses:
At the Greenwood Mills, Liberty Plant, instructors from Tri-County Technical College are brought into the work location to talk and learn everything about the process. At the Du Pont Company vocational students come in and work. Mr. Johnson would like to see more students taking advantage of first hand experience. In the future, he would like to see a student spending half his time in the labs of the plant. He would like to see the electrical engineers stop by the school on their way to work and have an early assignment in the morning, such as teaching a math class, before continuing on to work. That will put the role model in front of the children. It would allow students to see how education relates and applies to making a living.

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The Du Pont Company would like to take repair work into the vocational schools so the students can see they are doing something with some value to it, but in many cases the schools don't have the equipment. A lack of appropriate equipment seems to be a standard problem.

Charles Spainhour:
I agree with the need to raise our expectations in the educational system. I think we have to be a little more empathetic towards the educators and recognize that they have needs that are not being addressed. During my first visit to the Aiken County Career Center a few years back, there wasn't a safe piece of equipment in that facility. They were attempting to train machinists and welders with equipment that literally was not, in many cases, safe to operate. OSHA would have closed them down if they were a manufacturing facility.

Bottom Line: The industrial community perceives that the vocational schools lack proper and safe equipment to teach meaningful work related skills.

Question 20:

What ideas or suggestions can you make regarding activities that you feel that vocational and technical education and instructors should institute as part of the educational process?

Responses:
One suggestion is that the vocational programs need to work closely with the community as the students do their projects. The vocational education people do not sell their services to the community. If they had the equipment to do it, then it could be promoted as if it were a business.

Marvin Johnson:
All vocational and technical instructors should understand the theory behind the activity being taught. The teachers teach from habit, instead of knowing the theory and background as to why you do things.

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Dorothy Aranda:
Promoting vocational education is a basic element that has been, for the most part, ignored. We are a society that responds to advertising. A slick promotion can sell snow to the Eskimos. Vocational education is missing out on the component that it is glamorous to go to a vocational school to become an assistant in nursing, an engineer, etc. The young people do not have an idea as to what these jobs entail. You ask someone what a welder does and what the finished product will be when the item is in the completed form. Students only see two joints put together with some solder around it, but no continuity is established to say that the welded piece will lead to a piece of equipment. We are not selling.

Jack Mullins:
Along this line of thinking, Mr. Mullins reports a constant problem with management not wanting to hire anyone but college graduates. When people come in to be interviewed and don't get selected for jobs, it sends out a horrible picture to the kids. The idea of a positive image is again suggested.

Charles Spainhour:
Businesses and industry should look for more opportunities to get involved in the school system: elementary level, middle school, high school, advisory boards, PTO's, PTA's, etc. I think we just have to get out and reach out and do a better job of selling.

He continued to say that when we go out and tell a school system that if you will provide this training we will provide the jobs, we have to be sure we are giving them a correct message. The training they are giving has to be of some value to a company. I was on the Governor's Industry Council and there was a problem with those training programs. People went through the training program and then found there wasn't a job waiting at the other end. There needs to be better cooperation between the people who provide the jobs and the people who provide the training, to insure that the students will be hired. We don't hire all the graduates because they are not the kind of people we are looking for.

One program that was very successful was OIC started by Dr. Sullivan. The reason it was successful was they taught the people who went through that program what the employer was looking for. Not just the technical skills, but to be to work on time, dress appropriately, attendance, and the skills to get along with other people.

The responses contained in this section are essentially quotes by the forum participants, except for questions, bottom lines, prologue, and editorial additions for clarity.

Some of these things need to be built into training. We have to work more with the schools.

Marita Eden:
The perception of vocational students is that of being the "lesser capable students." To change this perception, the heading, the title, or the ribbon put around the package needs to sell the product. Vocational students are a special group with the potential to earn more if they have successfully completed the program. Without the proper wrapping or ribbon kids know at an early age the ones who are in the silver group are the advanced readers and no matter what the teacher calls them, Johnny knows he is not in the advanced group and he is devastated and mom goes off to school to deal with the problem of wrappings.

Bottom Line: The advantages of vocational and technical education need to be promoted and advertised to encourage many more students to take advantage of vocational and technical education, so they may acquire employability and job keeping skills.

Question 21:

How frequently do you develop programs and activities, as well as provide support personnel to teach, consult, and train at technical colleges and vocational schools?

Responses:
The Milliken company participates on a technical college industry advisory committee. The company works directly with the vocational school in Lancaster.

Greenwood Mills has people serving on all different advisory committees with the local technical college, plus advisory committees of the different departments. Mr. Smith stated that the company has always had people involved from the standpoint of trying to get our thoughts and ideas across. The company developed some programs about two or three years ago for the main reason of upgrading the skills of the maintenance personnel. One of the engineers worked with the instructors at

Piedmont Technical College to outline a program. The employees attended during working hours while getting paid.

Other participants commented on their involvement with vocational centers and technical colleges.

Bottom Line: Companies need to take an active role regarding the skills that are taught at technical institutions. Special schools need to work with business and industry to upgrade employees' skills, not just for new or expanding employment.

PROMOTIONS OF EMPLOYEES

Question 22:

What requirements must be met by an employee to get a promotion?

Responses:
At Du Pont there are objectives and criteria that are designed for specific jobs. Employees go through a program to become qualified. Once a person qualifies, then he/she will move into a higher level job much faster. If two people qualify for the same job, it is then based on seniority.

Normally a promotion is based on performance - how well you are doing on whatever job you are doing. It amounts to what your potential is for other jobs.

The company is putting more emphasis on post-secondary education. In many cases a determining factor is when an employee shows the initiative to go out and take classes to try to upgrade himself.

The responses contained in this section are essentially quotes by the forum participants, except for questions, bottom lines, prologue, and editorial additions for clarity.

The Greenwood Mills company is working on a promotional process. The process will function similar to the following description. An entry level person earns a certain rate of pay. Once they master that particular entry level job, the first opportunity that arises, they can cross train on another job. Once they master the other job, they get a pay increase. Greenwood Mills has to work out the mechanics, but ultimately the entry level employee will gradually cross train so that they can do a number of different jobs and the pay moves up accordingly. The promotional system is tied in with criteria for personal development education.

Greenwood Mills avoids creating competition in the plant during the work team's training. They try to avoid super operators, so that one team doesn't get over another team. People are encouraged to try for promotional opportunities.

Bottom Line: Companies are striving to create promotional programs based on the individual workers' personal development, educational initiative and achievement, and performance records. One company is developing a system so that workers can cross-train, enabling them to obtain more skills.

FUTURE NEEDS: FIVE TO TEN YEARS DOWN THE ROAD

Question 23:

What are the expected changes in your company in the next five to ten years?

Responses:

SCE&G: Ten years from now people will be able to drive down your neighborhood in a truck and read all your meters without ever leaving the truck.

Springs Industries: More electronics and computers.

The responses contained in this section are essentially quotes by the forum participants, except for questions, bottom lines, prologue, and editorial additions for clarity.

Hoechst Celanese: Five years from now the company won't be the same format, therefore, we have to prepare people for a change in responsibilities. The education process needs to happen continuously to prepare these people.

You are going to see more computer integrated manufacturing where every process is interconnecting. Everything will be tracked through computers.

WLOW: The people I hire must be computer friendly. This is the radio station of the next ten or fifteen years. If a person has problems with technology, then no matter how wonderful his voice is, he couldn't work for me today. Likewise, that person will not be able to work in the industry in ten years.

Milliken: Before we can teach people the technology that we need, we need to teach them the basic skills. Without the basic skills we cannot be successful and the employee cannot be successful. A good knowledge of basic skills gives employees a greater self-esteem.

NCNB: Banking is a bit different. If a person wishes to work in banking, they must have good self-esteem so they can project themselves. I feel that vocational schools need to teach the skill, but they need well rounded individuals coming out that can apply the skills to get themselves further along in life.

Du Pont: The company will move to flex time instead of set hours. Employees in the future won't necessarily report to the plant, but could work at home.

Blue Cross and Blue Shield: Today it takes several people to follow through the steps of a computer. Now we are moving rapidly to one step processing. One person can do it all. This requires a great deal of work and higher knowledge training.

Marriott: We have a program at the hotel which is being done to continuously update guest data, when you check into a hotel everything is computerized so we know exactly what you expect.

We have a two-fold purpose. An employee has to have good self-esteem, the desire to achieve, to be service oriented, as well as possessing computer skills.

The responses contained in this section are essentially quotes by the forum participants, except for questions, bottom lines, prologue, and editorial additions for clarity.

FMC: All the things we have been hearing about in Workforce 2000, we have been doing for 5 years in a computer integrated manufacturing environment.

Bottom Line: People entering the workforce today will need to continually upgrade their skills, either within a company or by returning to a technical college for training. The lack of computer skills will limit job opportunities and decrease the chances for advancement.

The responses contained in this section are essentially quotes by the forum participants, except for questions, bottom lines, prologue, and editorial additions for clarity.

CONCLUSIONS

The business and industry leaders discussed how business and industry could become more involved in the educational system by providing advice and services. They emphasized that basic skills, communication skills, good self-esteem, and social skills are the key to a successful relationship between the employer and the employee. Employees who possess these key characteristics will be more valuable to any company because the employee will be able to adapt and be more productive.

The rapid changes in business and industry also indicate that people preparing for jobs in an economy of high technology must have a good working knowledge of computers to be able to be productive in most occupational areas.

One of the problems in employment in the views of the employers, has been that students are being poorly prepared academically and vocationally. One of the reasons cited for the gap in skills required for employment is that the guidance counselors lack the practical working knowledge of what companies expect and what the rewards may be for employees. Another reason is that vocational programs generally lack adequate modern equipment to properly educate students for employment.

The secondary vocational education programs and post-secondary technical colleges are lacking enrollment from students who have high capabilities in academic and vocational courses. The image of vocational and technical education needs revamping in relationship to the current trends in the workforce. The majority of jobs within the next ten years will not require a four year college degree. Vocational education and technical education should be projected as a desirable educational option for students of all ability levels. Due to changing working conditions, students who are lacking the basic skills will find it difficult to succeed in vocational courses.

RECOMMENDATIONS To:

THE STATE BOARD OF EDUCATION

(STATE BOARD FOR VOCATIONAL EDUCATION)

And To:

THE STATE BOARD FOR TECHNICAL AND COMPREHENSIVE EDUCATION

RECOMMENDATION I:

In addition to teaching occupational skills, all occupational programs should continue to emphasize basic educational skills. Additionally, instructional programs should include attention to teaching interpersonal skills and desirable work behavior.

Rationale: Job applicants who do not have an adequate level of abilities in reading, writing, and computational skills are not considered employable by many of the employers in today's complex workplace. Emphasis on increased basic skills in vocational and technical education can supplement the instruction provided by other teachers without reducing the occupational skill training. Attention to improvement in basic educational skills within vocational education is an effective technique for raising basic educational attainment.

"A personnel selection inventory, written at the eighth grade education level, is given to applicants. ... a high number of applicants ... fail this inventory."

Companies can teach employees how to provide an expected service, but the thing that is difficult to teach is how to get to work on time, displaying a good attitude, and good self-esteem.

Societal changes have caused a large proportion of today's youth to reach the age of employment without having observed or learned desirable work ethics and acceptable behavior. Being at work reliably and on-time, acceptable dress and grooming, and other similar topics must be presented and reinforced in the instructional program if we are to maintain these attributes in the work force.

RECOMMENDATION II:

Vocational education teachers of programs where computers are being used in business/industry should be proficient in the use of applicable software and computer operation. Procedures should be established to assure that appropriate vocational programs are identified, and that teachers become adequate in use of computers and applicable software.

Rationale: If teachers are going to work with students in the use of computers, then the teachers should be proficient in computer usage. Teachers who are competent in the use of and comfortable with computers are more likely to take full advantage of these resources than would teachers who are unfamiliar with computers.

Given the rapid progress in the development of extremely effective interactive and branching computer educational software packages, teachers should be postured to take full advantage of computer aided or computer based instruction. With the explosive increase in availability of computers for many different applications, skills in keyboarding and use of various software applications is highly desirable for teachers and for students.

> **"We are teaching a smoke stack education to a futuristic society of youngsters. We can't do that anymore. We can't wait five or ten years."**

It would be desirable if all teachers could be brought to some nominal level of proficiency in keyboarding, computer management and software applications to better utilize computer applications when and where appropriate.

RECOMMENDATION III:

Additional occupational specialists are critically needed to counsel students and aid them in the decision-making process for the first job following school, or in selecting the most appropriate post-secondary educational program. Persons who are familiar with the conditions within business and industry should be utilized to advise all of the students who do not have definite plans to immediately matriculate in a four-year college.

Rationale: Students need assistance in job selection and in educational program selection for additional education beyond high school. School counselors are already overloaded, and assistance in educational program selection or in employment can best be provided by persons who are familiar with current conditions and technology

in business and industry. Neither the parents of students, nor the academically prepared counselors, have had the experiences necessary to provide any type of comprehensive advice regarding the broad range of employment opportunities in business and industry. Occupational specialists who are not encumbered by crisis counseling should be provided to meet with every student to discuss (with each student who is not definitely planning to attend a four-year college program) the best choice regarding employment or (and) additional available training in the student's occupational field of choice.

After speaking to an 11th and 12th grade group at the vocational center, Mr. ___ realized that the majority of the people in the class, as well as the administrators and instructors, did not know the entry level pay, the benefits ... or the skills required.

RECOMMENDATION IV:

A. **Continue to promote vocational education, and encourage an increase in the efforts related to promotion of vocational education.**

B. **Encourage continued cooperation of secondary vocational education with related post-secondary (technical) education in conjunction with industry, including efforts in articulation of programs and the possibilities of other programs such as the Tech Prep 2-plus-2.**

Rationale: Many parents and students still think of vocational education as a program for students who cannot be admitted or do not plan to attend a four year college. There are also a considerable number of students who, for whatever reasons, pursue a "general" track in high school, and thus are not prepared for entry into higher education or for employment. The true potential and value of vocational education must be conveyed to students, parents, teachers, and others. "Tech Prep 2-plus-2" or vocational education should be utilized as the alternative to the "general" track for students in the high schools. For this to occur, then the image of vocational education must be improved to convey the proper perspective throughout the communities. Proper utilization of community leaders who are employed in business or industry can aid in conveying to the students the importance of vocational education and the dignity of occupations that one enters best through vocational education or technical education programs.

"Vocational education needs advertising and promoting to create [a positive] image. It needs to have its image promoted in a positive light."

RECOMMENDATION V:

More cooperative and apprentice type programs should be established to give students training on up-to-date equipment that is in use by businesses and in industry.

> **"The ____ company would like to take repair work into the vocational schools so the students can see they are doing something with some value to it, but in many cases the schools don't have the equipment. A lack of appropriate equipment seems to be a standard problem."**

Rationale: Students should be trained on equipment that is similar to that currently being utilized in business and industry, yet the rate of change of equipment coupled with the relatively high cost of equipment makes it very difficult to keep up with the changes. Cooperative or apprentice type educational programs offers one viable solution to the problem of providing work experience and learning on state-of-the-art equipment. This would especially be true for vocational and technical education programs where the equipment costs are very high or in occupational areas where the class size is relatively small. While the annual allocation of state funds for vocational education equipment under the provisions of the Education Improvement Act (EIA) is very helpful, more funding is needed for equipment in all vocational education and also in technical education.

APPENDICES

BUSINESS AND INDUSTRY FORUM AGENDA

Marriott Hotel
Columbia, South Carolina

9:00 AM, November 27, 1989

SPONSORED BY:

SOUTH CAROLINA COUNCIL ON VOCATIONAL AND TECHNICAL EDUCATION

WELCOME:	*Dr. Robert White, Executive Director* *State Council on Vocational and Technical Education*
INTRODUCTION OF COUNCIL MEMBERS:	*Mr. Larry Patrick, Chairman of the Council's Executive Committee*
VIDEOS:	*Mr. Lonnie Rowell, Member* *State Council on Vocational and Technical Education* *CBS: Great Oaks Joint Vocational School District* *President Bush: "American Success Awards for Vocational-Technical Education"*
INTRODUCTIONS:	*Ms. Dawn Abell, Executive Assistant* *State Council on Vocational and Technical Education*
SCHEDULE:	*Mr. Toby Chaffin, Moderator*
FORUM RULES:	*Mr. Toby Chaffin, V.P. of Human Resources* *South Carolina State Chamber of Commerce*
SESSION I:	*Mr. Toby Chaffin, Moderator*
PHOTOGRAPHS:	*Participants meet at 11:20 for group picture*
LUNCH:	*In the Atrium at 11:30 am*
SESSION II:	*Mr. Toby Chaffin, Moderator*

BUSINESS AND INDUSTRY FORUM TOPICS

I. Today's Requirements: Job Skills

Q. What level of education is required for employment at your company?

Q. What is the general level of education of the people employed by your company?

Q. What skill requirements are not being met for employment?

Q. What skill requirements beyond general education are expected of new employees?

Q. Are most of the people hired at the entry level position?

Q. What is the availability of a potential workforce for present day skills?

Q. Do you have a problem with getting sufficient applicants?

Q. Do you hire high school dropouts?

Q. If you hire dropouts, what is the reason for hiring these people and what positions are they hired to fill?

Q. What changes or programs would you recommend that secondary vocational and technical colleges should make to accommodate your company's needs?

Q. In what ways are secondary vocational schools and technical colleges working with your company to provide the highest quality employees?

II. Training Programs

Q. How does your company support and encourage further training and/or education?

Q. Does your company have training inhouse programs?

Q. Are your training programs entry level or for advanced skills or general education advancement?

Q. What can secondary vocational and post-secondary technical education do to reduce training and retraining needs in business and industry?

BUSINESS AND INDUSTRY FORUM TOPICS - Continued

Q. How does your company work with the secondary vocational schools and technical colleges in the local area?

Q. Are your training programs coordinated with the vocational and technical facilities in the area?

III. Handicapped and other Special Needs People

Q. What provisions does your company provide to avoid the following forms of discrimination on the basis of: sex-bias and stereotyping, single homemakers or single parents, criminal offenders, the handicapped, the disadvantaged, and adults who need training or retraining?

Q. Do these groups of people have equal access to employment?

Q. How can the handicapped be trained to be made more employable?

Q. Is your company actively seeking handicapped and other special needs people for employment?

Q. Is the company you work for well-versed on the types and capabilities of the various handicapped student classifications?

Q. Has a special educator (teacher of the handicapped) been to your business to explain that many handicapped students are capable to perform various jobs?

IV. Relationship to Vocational and Technical Education

Q. Is there a liaison person or staff member in your firm specifically designated to work with the secondary vocational and technical colleges?

Q. How frequently does your company develop programs, engage in activities, supply support personnel for teaching or consultation, and provide needed information about your company's future needs to secondary vocational schools and technical colleges?

Q. What plans do you have to expand your relationship with these facilities?

BUSINESS AND INDUSTRY FORUM TOPICS - Continued

Q. Does your company work with school districts to prevent students from dropping out of school?

V. Inhouse Promotion of Educated Employees

Q. In what ways would promotions be based on education that would upgrade skills?

Q. Does your company employ people from occupational vocational programs with only a high school diploma and/or certification of competency from an occupational vocational program?

VI. Future Needs

Q. What are the expected changes in your company in the next five years and the next ten years?

Q. What will the changes be in terms of skill requirements?

Q. What programs would you like to see instituted in secondary vocational schools and technical colleges to prepared students for future job skills?

DATA SEARCHER

Please complete the information requested below. We would like all of our data on you and your company correct.

NAME: (Ms. Mrs. Mr. Miss) _____

TITLE: _____

PHONE NUMBER: _____ EXT. _____

NAME OF COMPANY: _____

LOCATION OF COMPANY (CITY ONLY) _____

ADDRESS OF COMPANY _____

NUMBER OF EMPLOYEES: _____

If you are planning on arriving the evening before the forum, Nov. 26, and need a hotel reservation, please indicate YES below. The Council can only pay for the rooms of participants whose businesses and residences are more than 50 miles from Columbia.

YES _____

Thank you for taking valuable time to help us complete our records.

Mail To: **SC Council on Vocational and Technical Education**
2221 Devine Street, Suite 420
Columbia, SC 29205
803-734-9161

APPENDIX D

SOUTH CAROLINA COUNCIL ON VOCATIONAL AND TECHNICAL EDUCATION

VOCATIONAL EDUCATION TERMINOLOGY

1. **VOCATIONAL EDUCATION:** "The term means organized education programs which are directly related to the preparation of individuals for paid or unpaid employment, in such fields as agriculture, business occupations, home economics, health occupations, marketing and distributive occupations, technical and energy occupations, modern industrial and agricultural arts, trade and industrial occupations, or for additional preparation for a career requiring other than a baccalaureate or advanced degree and vocational students organization activities as an integral part of the program...." (Carl Perkins Vocational Education Act of 1984 - PL 98-524)

In South Carolina, the term is often used to designate secondary level programs offered in high schools or vocational education centers.

2. **TECHNICAL EDUCATION:** "...instruction and training in occupations above the craftworker or trade levels, but generally not professional in nature ...[Instruction is designed to] qualify persons for employment in paraprofessional positions and as technicians, engineering aides, and production specialists." (American Vocational Association)

In South Carolina, the term is often used to designate the institutions and program offerings provided under the auspices of the State Board for Technical and Comprehensive Education. The programs are usually located at or administered by one of the sixteen Technical Colleges.

3. **CAREER EDUCATION:** "...is the total effort by which educational agencies and communities present organized career-oriented activities and experiences to all persons from nursery school through adulthood, and orients the entire educational plan into one, unified, career-based system." (Illinois State Board of Education, 1980)

4. **ADULT EDUCATION:** "... educational opportunities for adults ... that will: 1.) enable all adults to acquire basic skills necessary to function in society, 2.) enable all adults who so desire to continue their education to at least the level of completion of secondary school, and 3.) make available to adults the means to secure training that will enable them to become more employable, productive, and responsible citizens." (The Adult Education Act, PL 91-230)

VOCATIONAL EDUCATION TERMINOLOGY - Continued

ADULT EDUCATION may be categorized into four types:

LITERACY: teaching basic reading -- often using one-on-one approach

BASIC ADULT EDUCATION: classes designed to overcome deficiencies in certain areas, such as reading, math, or writing and usually at a level below secondary

GED: preparation for a test of equivalency of high school graduation

DIPLOMA: enrollment in an adult program to earn a high school diploma from an accredited high school

5. ADULT VOCATIONAL EDUCATION: Program, or programs, designed to provide entry-level or upgrading skills to adults, generally offered in high schools or Area Vocational-Technical Schools.

6. CONTINUING EDUCATION: Any extension for young persons and adults, of opportunities or reading, study and training at the higher education level following completion of or withdrawal from full-time educational programs. Usually emphasizes flexible programs.

7. WORK EXPERIENCE PROGRAM: A program having as its purpose the extension of vocational learning opportunities for the students through part-time employment in the occupation for which his/her school instruction is preparing him/her.

8. COOPERATIVE EDUCATION: Program resulting from cooperative arrangement between employers which provides students involved with jobs and school with related instructions.

9. WORK EXPERIENCE EDUCATION: Employment undertaken as part of the requirements of a school course and designed to provide planned experiences, in the chosen occupation, which is supervised by a teacher-coordinator and the employer.

10. ON-THE-JOB TRAINING: Instruction in the performance of a sequentially-planned job given to an employee by the employer during the usual working hours of the occupation. Usually the minimum or beginning wage is paid.

VOCATIONAL EDUCATION TERMINOLOGY - Continued

11. **PRE-EMPLOYMENT TRAINING:** Instruction and practices in the skills and principles of an occupation or payroll job given to persons before placement on a job. Instruction may be a formal course or curriculum, or it may be a short intensive program of orientation and instruction immediately prior to employment.

12. **AREA VOCATIONAL SCHOOL:** A school which serves a geographic area as a deliverer of vocational education including: (a) vocational high school; (b) a high school department offering at least five occupational areas of study; (c) a technical or vocational school for students who have completed high school; (d) a junior or community college department offering at least five occupational areas of study. An area vocational school may also be identified by some other name, such as a career center or development center.

An area vocational school (center) may serve secondary students from one or several school districts.

13. **AREA VOCATIONAL TECHNICAL SCHOOL:** School serving a geographic area and organized for the primary purpose of offering vocational/technical education.

14. **COMPREHENSIVE HIGH SCHOOL:** A secondary school with a curriculum designed to offer a diversified program to meet the needs of pupils with varying interests and abilities.

15. **PRIVATE VOCATIONAL TRAINING INSTITUTION:** A business or trade school, a technical institution, or other technical vocational school which admits students who have left or completed school and prepares them with skills for employment.

16. **LOCAL DIRECTOR OF VOCATIONAL EDUCATION:** Educational administrator charged by the local Board of Education with the responsibility for developing, planning, and implementing vocational education in a local school system.

17. **DISADVANTAGED:** Persons (other than physically or mentally handicapped) with academic or economic disadvantages who require special services and assistance in order to succeed in vocational education programs. Includes persons from economically disadvantaged families, migrants, limited-English proficiency, dropouts, and potential dropouts.

VOCATIONAL EDUCATION TERMINOLOGY - Continued

18. **HANDICAPPED:** Persons who are mentally retarded, hard of hearing, deaf speech-impaired visually handicapped, seriously emotionally disturbed, crippled, or otherwise impaired in terms of health, who therefore require special education and related services and cannot succeed in regular vocational education programs without special assistance or who require a modified vocational education program.

19. **UNEMPLOYED:** Person who is not employed in the labor force, but is actively seeking employment.

20. **UNDEREMPLOYED:** Person who is not fully utilizing his/her human potential.

21. **DISPLACED WORKER:** Individual who is unemployed because of a plant closing or inability to keep pace with changing technology.

22. **ECONOMICALLY DEPRESSED AREA:** Economically integrated area within the state having a chronically low level of economic activity or a deteriorating economic base which causes unemployment to exceed by 50% or more the average unemployment of the state.

23. **T&I:** Trade and Industrial Education - Instruction related to any or all occupational areas, usually in grades 11 and 12, such as auto mechanics, masonry, machine shop, etc. A type of program under vocational education.

> Instruction planned to develop basic manipulative skills, safety practices, judgment, technical knowledge, and related occupational information for the purpose of fitting persons for initial employment in industrial occupations or upgrading and retraining workers employed in industry. (Pennsylvania Council on Vocational Education, 1985)

24. **COOPERATIVE EDUCATION:** A cooperative arrangement among school representatives, students, parents, and employers in the community which provides students with entry-level employment in an occupational field related to their area of study. Work periods and school attendance may be on alternate half days, full days, or weeks. (Pennsylvania Council on Vocational Education, 1985)

25. **COMPETENCY-BASED VOCATIONAL EDUCATION:** An instructional system based on occupational analysis and clearly stated performance objectives that lead to the development of competencies - knowledge, skills, and attitudes - that are deemed critical to successful employment. Successful completion is based on mastery of competencies rather than on clock-hours of participation. (Pennsylvania Council on Vocational Education, 1985)

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